



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,715	10/12/2001	David S. Allison	36159/098001; P5944	3306
32615 7590 01/08/2009 OSHA LIANG L.L.P./SUN TWO HOUSTON CENTER 909 FANNIN, SUITE 3500 HOUSTON, TX 77010				
EXAMINER ZHEN, LI B				
ART UNIT		PAPER NUMBER		
2194				
NOTIFICATION DATE		DELIVERY MODE		
01/08/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com
lord@oshaliang.com
hathaway@oshaliang.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/977,715
Filing Date: October 12, 2001
Appellant(s): ALLISON, DAVID S.

Robert P. Lord (Reg. No. 46,479)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 20 October 2008 appealing from the Office action mailed 18 March 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,131,183	Tyler	10-2000
6,842,898	Carlson et al.	1-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 23, 26 – 30 and 33 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,131,183 to Tyler in view of U.S. Patent No. 6,842,898 to Carlson et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23, 26 – 30 and 33 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,131,183 to Tyler in view of U.S. Patent No. 6,842,898 to Carlson et al. [hereinafter Carlson, previously cited].

As to claim 23, Tyler teaches the invention substantially including a method for communicating between threads [col. 5, lines 50 – 60], comprising:

invoking a first thread [ARC/INFO controller 44; col. 4, lines 3 – 13];

associating a first input stream and a first output stream with the first thread [system 42 is provided with two TTY data streams; a standard input "stdin" and a standard output "stdout", Fig. 6; col. 4, lines 47 – 55];

invoking a second thread [ARC/INFO program 28 as a child process; col. 4, line 65 – col. 5, line 4];

associating a second input stream and a second output [glues its stdin and stdout to "childWrite" and "childRead" respectively; col. 4, line 65- col. 5, line 4]; and

invoking a stream operator to write a first data value from the first thread to the second thread [controller 44 simply passes its stdin through its childWrite to the stdin of the ARC/INFO program 28; col. 5, lines 3 – 11], wherein the stream operator connects the first output stream to the second input stream [glues its stdin to "childWrite"; col. 4, line 65- col. 5, line 4] and sends the first data value from the first output stream to the second input stream [user program through childWrite to the stdin of the ARC/INFO program 28; col. 6, lines 10 – 20];

using the second thread to generate a second data value by performing an operation on the first data value [readStdin subroutine 60 calls the wakeup subroutine 64 which sends a command to the X-server 18 to delete the dummy window associated with the dummy GUI operation 50; col. 5, line 65 – col. 6, line 7]; and

invoking the stream operator to write the second data value from the second thread to the first thread [takes the stdout of the ARC/INFO program 28 through its childRead and passes it along to its stdout; col. 5, lines 3 – 11], wherein the stream operator connects the second output stream to the first input stream and sends the second data value from the second output stream to the first input stream [glues its stdout to "childRead"; col. 4, line 65 – col. 5, line 3];

wherein at least one selected from the group consisting of the first thread and the second thread manages an operating system process [With the Unix operating system it is simple to redirect stdin and stdout to the terminal emulator 26 or to a file or user program; col. 4, lines 47 – 55]. Although Tyler teaches the invention substantially, Tyler does not specifically teach the threads comprise a program counter, a stack, a state, and a register set.

However, Carlson teaches communication between threads [col. 4, line 63 - col. 5, line 5] and the threads comprising a program counter [a thread typically includes a program counter; col. 4, lines 42 – 64], a stack [stack; col. 4, lines 42 – 64], a state [thread can have one of several states; col. 4, lines 42 – 64], and a register set [register set; col. 4, lines 42 – 64].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Tyler to incorporate the features of Carlson because this provides a method and apparatus for handling call backs on system events for a collection of related threads [col. 4, lines 42 - 64 of Carlson].

As to claim 26, Tyler teaches the second thread is a child thread of the first thread [col. 4, line 65 – col. 5, line 4].

As to claim 27, Tyler teaches at least one selected from the group consisting of the first input stream, the first output stream [col. 4, lines 47 – 55], the second input stream, and the second output stream is a standard stream [col. 4, line 65- col. 5, line 4].

As to claim 28, Tyler teaches the standard stream is directly built into a dynamically typed programming language [col. 2, lines 12 – 18].

As to claim 29, Tyler teaches associating a first error stream with the first thread [col. 5, lines 13 – 49 of Carlson].

As to claim 37, Tyler teaches the first thread and the second thread are associated with a single process [col. 4, line 65 – col. 5, line 4].

As to claim 40, Tyler teaches wherein the stream operator is a symbol [col. 4, lines 47 – 55].

As to claims 30, 33 – 36, 38 and 39, these are product claims that correspond to method claims 23, 26 – 29, 37 and 40; see the rejections to claims 23, 26 – 29, 37 and 40 above, which also meet these product claims.

(10) Response to Argument

Appellant argues in substance that:

(1) Tyler and Carlson fail to teach or suggest the second data value is written from the second thread to the first thread using the output stream of the second thread.

Examiner respectfully traverses Appellant's arguments:

Tyler teaches a first thread [ARC/INFO controller 44; col. 4, lines 3 – 13] associated with a first input stream [a standard input "stdin", Fig. 6; col. 4, lines 47 – 55] and a first output stream [a standard output "stdout", Fig. 6; col. 4, lines 47 – 55] and a second thread [ARC/INFO program 28 as a child process; col. 4, line 65 – col. 5, line 4] associated with a second input stream and a second output [glues its stdin and stdout to "childWrite" and "childRead" respectively; col. 4, line 65- col. 5, line 4].

The first thread also includes main routine [main routine 60 sets up system operation by creating a communication link to the X-server 18 and creating the ARC/INFO child process with TTY links to its stdin and stdout; col. 5, lines 50 – 60 and Fig. 9] and readStdin subroutine [controller 44 includes a readStdin subroutine 60; col. 5, lines 41 – 50]. The second thread includes XtMainLoop routine [XtMainLoop routine 28a which is the main routine of the ARC/INFO program 28; col. 5, lines 42 – 50]. The

first thread writes a first data value [message to register the readStdin subroutine including callback parameters] to the second thread [ARC/INFO child process] when the main routine in the first thread registers with the second thread so that the readStdin subroutine in the first thread will be called back from within XtMainLoop 28a upon the event that there is something to read from the stdin of the first thread [readStdin subroutine 60 which is called by XtMainLoop 28a in accordance with callback parameters set up by a main routine 62, col. 5, lines 41 – 50; and readStdin subroutine 60 is registered so that it will be called back from within XtMainLoop 28a upon the event that there is something to read from the stdin of the ARC/INFO controller; col. 5, lines 50 - 60]. The second thread writes a second value [message call from XtMainLoop routine to readStdin routine of the first thread based on callback parameters] to the first thread when the XtMainLoop 28a routine in the second thread makes a call to the readStdin subroutine in the first thread based on the callback parameters provided during registration [controller 44 includes a readStdin subroutine 60 which is called by XtMainLoop 28a in accordance with callback parameters set up by a main routine 62; col. 5, lines 42 – 50]. Tyler also discloses that the first thread [ARC/INFO controller 44] communicate with the second thread [ARC/INFO program 28] using the input/output stream pairs [controller 44 simply passes its stdin through its childWrite to the stdin of the ARC/INFO program 28. It also takes the stdout of the ARC/INFO program 28 through its childRead; col. 4, line 66 – col. 5, line 12]. Therefore, the message calls between the main routine, the XtMainLoop routine and the readStdin subroutine are also passed through the input/output stream pairs.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Li B. Zhen
December 30, 2008

Conferees:

/Eddie C. Lee/

Supervisory Patent Examiner, TC 2100

Eddie C. Lee

/Meng-Ai An/

Supervisory Patent Examiner, Art Unit 2195

Meng-Ai An

/Li B. Zhen/

Primary Examiner, Art Unit 2194

Li B. Zhen

